

Date: Thu, 22 Jul 93 13:16:18 PDT  
From: Info-Hams Mailing List and Newsgroup <info-hams@ucsd.edu>  
Errors-To: Info-Hams-Errors@UCSD.Edu  
Reply-To: Info-Hams@UCSD.Edu  
Precedence: Bulk  
Subject: Info-Hams Digest V93 #889  
To: Info-Hams

Info-Hams Digest                      Thu, 22 Jul 93                      Volume 93 : Issue 889

Today's Topics:

                    Ground Rods In Concrete  
            List of conrties and call prefixes  
                    Looking for Shareware  
                    qrp...  
                    Radio Shack  
                    Results of modes survey (2 msgs)  
            STILL waiting for your license? Read this and weep!  
    Type Acceptance impacts all NEW equipment, was Re: TS50 Illegal!

Send Replies or notes for publication to: <Info-Hams@UCSD.Edu>  
Send subscription requests to: <Info-Hams-REQUEST@UCSD.Edu>  
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Info-Hams Digest are available  
(by FTP only) from UCSD.Edu in directory "mailarchives/info-hams".

We trust that readers are intelligent enough to realize that all text  
herein consists of personal comments and does not represent the official  
policies or positions of any party. Your mileage may vary. So there.

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Date: Thu, 22 Jul 1993 08:33:10 GMT  
From: dog.ee.lbl.gov!overload.lbl.gov!agate!howland.reston.ans.net!  
europa.eng.gtefsd.com!emory!kd4nc!ke4zv!gary@network.ucsd.edu  
Subject: Ground Rods In Concrete  
To: info-hams@ucsd.edu

In article <CAF5tG.DL4@hpuerca.atl.hp.com> der@hpuerca.atl.hp.com (Dave Ritchie)  
writes:

>  
>Did this have the grounding system that Gary described installed within  
>it? I suspect that it did not. This prevented static discharges from  
>bleeding off of the antenna.  
>  
> The whole point of lightning prevention systems is that they prevent  
>strikes by draining off static charges prior to the rise of

>voltage potentials between earth and sky to the point that the air  
>dielectric breaks down. Relatively high resistance materials (such as  
>concrete pads) do not allow this occur quickly enough to prevent  
>strikes without proper preparation.

I hate to disagree with a supporter, but static dissipation arrays are notoriously ineffective. Your ground system has to be able to conduct the \*strike\* current safely into the Earth to prevent lightning damage. The FAA did exhaustive tests on dissipative systems and found that none were really effective. The Ufer ground I described \*is\* capable of handling strike currents if properly installed.

> Thought experiment - how big of a conductor would you need to conduct a  
>1000-10000A lightning bolt?

Not as big as you might think. Number 4 copper will do, or 3/4 inch rebar. The current only flows for milliseconds, and the voltage drop across the conductor is small compared to the bolt voltage, so the power dissipated in the conductor is relatively modest.

>>>The one thing concrete is  
>>>\*not\* is a good insulator to lightning surges. As a general rule, you  
>>>should always use conductors in concrete tower bases, rebar will do,  
>>>as part of your ground system. See my posting about Ufer grounds for  
>>>details.

>>>

>>>Gary

>

> and as Gary stated, all bets are off when lightning strikes. You need  
>to provide a good static dissipation path to prevent strikes - which  
>the Ufer grounds (if properly prepared) would help provide. The problem  
>with this kind of ground for towers is that the surface contact area  
>is not large enough in a tower pad to provide a low resistance path to  
>ground (my guess).

See above about static dissipation. You need about 200 square feet of surface contact for a Ufer ground to safely \*solely\* conduct a strike's current to Earth. That's contact between concrete and Earth. Inside the concrete, you need enough contact between the conductors and the concrete to couple the strike current to the concrete. That requires at minimum a total of 20 lineal feet of embedded conductors. If you don't have that, you need additional grounding systems such as strap connected ground rods, or ground radials.

Don't count on static bleed to create a "safe" zone of space charge around your antenna. It generally won't. You must engineer to accept full strikes and conduct the currents away safely. The reason Ufer grounds work is that concrete is a better conductor than most soils.

So it acts to spread the energy over more soil than a driven rod alone can. This is a sheet resistance problem, and the more contact you can get, the lower the effective resistance of the connection. Obviously, a solid block of metal the size and contact area of the concrete would work even better than a Ufer ground, but a Ufer ground, when done right, works better than just the embedded wires alone would if buried directly in soil.

According to Roger Block in \_The Grounds for Lightning and EMP Protection\_, there have been no documented cases of concrete spalling in properly installed Ufer tower grounds. Certainly in almost 30 years of professional service I've never seen a case of concrete spalling attributable to a Ufer installation. I \*have\* seen lots of concrete spalling, but in every case the concrete was not properly configured as a Ufer ground.

Gary

```
--
Gary Coffman KE4ZV          | You make it,      | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it.     | uunet!rsiatl!ke4zv!gary
534 Shannon Way           | Guaranteed!      | emory!kd4nc!ke4zv!gary
Lawrenceville, GA 30244    |                   |
```

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Date: Thu, 22 Jul 1993 01:03:30 GMT  
From: butch!netcomsv!netcom.com!netcomsv!bongo!julian@uunet.uu.net  
Subject: List of conrties and call prefixes  
To: info-hams@ucsd.edu

In article <9307211625.AA20067@nms1.abb.com> jennings@abb.COM writes:

```
>Hi,
>
>I was wondering if there was a list of contries and their
>call prefixes?
>
```

Yes, there is. There are several. If you buy a DX callbook, they are in the back. They also appear in various ARRL publications.

These are the books that any amateur should have in his library.

--

Julian Macassey, N6ARE julian@bongo.tele.com Voice: (213) 653-4495  
Paper Mail: 742 1/2 North Hayworth Avenue, Hollywood, California 90046-7142

-----  
Date: 22 Jul 93 16:25:47 GMT  
From: ogicse!uwm.edu!linac!att!bgsuvax!ksenior@network.ucsd.edu  
Subject: Looking for Shareware  
To: info-hams@ucsd.edu

I'm looking for ftp sites having ham shareware. If you have any information on such sites, please E-mail me at the address below:

ksenior@andy.bgsu.edu

Thanks,

Ken Senior  
N4MEU  
Bowling Green Oh.

-----  
Date: Thu, 22 Jul 93 08:47:39 GMT  
From: mercury.hsi.com!a3bee2!cyphyn!randy@uunet.uu.net  
Subject: qrp...  
To: info-hams@ucsd.edu

f\_speerjr@ccsvax.sfasu.edu writes:  
: In article <CA9F4u.LwA@cmptrc.lonestar.org>, mitch@cmptrc.lonestar.org (Mitch Veenstra) writes:  
: > I'm looking for some net wisdom. Now that my code speed is starting to come  
: > back up I'm debating on going qrp for my cw work. (a lot less rfi problems than  
: > my borrowed hw101 /grin). I'm looking for thoughts on the subject as well  
: > as some ideas on decent, affordable cw qrp radios. I've been reading the  
: > adds for the MFJ radios and they look pretty good for the price I can  
:                   ^^^^^^^^^^  
: > get one locally for. Any ideas? Hints?  
: >  
: > Thanks!  
: > Mitcheal  
: > KA5S0I  
: > (tech+ upgrading to general and beyond!)  
: >  
: >  
: I've been VERY happy with my MFJ 30m xcvr. It's got a GREAT r/x. And 30m strikes me as an excellent cw band, just right for a recovering microphone user!  
: user!  
: Jim K5YUT

:

I can't recommend any particular NEW rig, but the HW-8 I had was a lot of fun.

I also used a Meissner Signal Shifter ( about 3 watts after cleaning up the signal) for a while, then an AT-1 Heathkit , 1st at 16 watts but then using a 1000 ohm kathode resistor , I brought it down to 3 watts abouts.

One day , JUST to see if I could be heard, I took a vfo( 7mc ) and added a buffer stage...using a 2N3904 transistor ( normally a Receiver IF amp), and coupled it to the antenna ( 42 foot wire and series condenser to resonate it ).

Using standard QRP tricks, I got someone!

After the QSO, I measured the output: 0 on the meter's 10 w scale, so I had to use the scope.....35 milliwatts!

I got 3 more stations after that. I was flabberghasted.

YES! QRP will be fun! 80m by nite, and 40m by day.

--

Randy,KA1UNW                      If you get a shock while servicing your equipment  
DON'T JUMP! You might break an expensive tube.

-----

Date: 22 Jul 93 08:57:07 GMT

From: news.cerf.net!crash!newshub.nosc.mil!dog.ee.lbl.gov!overload.lbl.gov!agate!  
library.ucla.edu!news.mic.ucla.edu!unixg.ubc.ca!acs.ucalgary.ca!cpssc.ucalgary.ca!  
debug!sinet!ejones@network.

Subject: Radio Shack

To: info-hams@ucsd.edu

In article <CAH0Ir.1Hp@egr.uri.edu>, swamik@orca.NoSubdomain.NoDomain  
(Swami Kumaresan) writes:

```
> I called the other day to ask if RS had a certain transistor.
> salesdroid: "Yes, it can be found in our cross reference.."
> I said:      "Could u please look up (whatever it was) for me..."
> salesdroid: "Oh, I, uh, I have a line of customer waiting...but
>              u can look it up if u want..."
> I said:      "I am sitting at home, abt 10 miles from ur store, hence
>              I cannot look it up from here, maybe u missed that..."
> salesdroid: "Well, sir, like I said I have a bunch of customers..."
> I said:      "Yeah...Right.." and Hung Up!!!
>
> Perhaps that was rude, but this is not the first instance a RS
> saledroif has been to lazy to help me over the phone.
```

Yes, you probably were rude. What makes you think that YOUR phone call is MORE important than the line up of customers that made the effort to drive out to the store? At best, BOTH the customers AND your phone call were equally important.

You should have suggested that the salesclerk call you back when the line up of customers is down to a managable level. Or the salesclerk could have suggested it as well.

You accomplished nothing but waste your time, the salesclerk, and lets not forget the customers that were waiting in line at the store.

```
- - - - -
| #include |
|-----|
| Endaf Jones          | Callsign: VE6END          |
| sinet OnLine Computer Systems | Email: ejones@sinet.cuc.ab.ca |
| Calgary, Alberta, CANADA      | Fidonet: 1:134/73          |
| +1(403)226-1883          |                          |
|-----|
```

P.S. Oh, and your short hand typing of words is VERY anoying.

Were not in the old days of morse code with telegrams  
where length of messages were kept to a minimum.

-----

Date: 22 Jul 93 12:07:01 GMT  
From: news.crd.ge.com!islandgirl!gaus@uunet.uu.net  
Subject: Results of modes survey  
To: info-hams@ucsd.edu

Hello again, fellow hams,

In a recent article I wrote:

```
>
> I am interested in finding out amateur radio operators' usage of
> the various modes available to them. Could you reply directly to me
> with a list of the modes you use and the percentage of time you
> allocate to each one? An example of a response might be something
> like this:
>
> SSB 90%
```

> PACKET 10%

>

> I will tabulate the responses and post the results after it seems

> like most responses are in.

>

> I am not requesting this information for any particular reason. I

> am just curious about how all of the modes are used by hams.

>

Below are the results of the informal survey. Twenty-one hams responded. Certainly the results are not representative of the amateur community as a whole, but it is nice to see what a small sample is doing.

It is interesting to note that many of the hams responding prefer to use CW! I was expecting more voice or packet usage. That is encouraging news for me personally, because I am nearly a 100% CW operator.

You will note that I marked some of the respondents invalid because their total usage was greater than 100%.

Thanks for your attention. Keep those keys going.

73,

Rick Gaus  
WA3INC

Respondent	FM	CW	SSB	PACKET	RTTY	SSTV	OTHER
1	60%	40%					
2		75%	25%				
3	(Invalid response. Answers totaled more than 100%)						
4	25%	8%	65%				2%

5	5%	70%	25%				
6	4%	95%	1%				
7	10%	90%					
8	(Invalid response. Answers totaled more than 100%)						
9		100%					
10		43%	35%	8%	10%	4%	
11		50%		50%			
12	5%	75%	20%				
13	1%	95%	4%				
14	95%	5%					
15	12.5%	75%	12.5%				
16	10%	50%	30%	10%			
17		75%	25%				
18		100%					
19	7.5%	90%	2.5%				
20	100%						
21	(Invalid response. Answers totaled more than 100%)						

Date: 22 Jul 93 14:57:21 GMT  
 From: ogicse!emory!news-feed-1.peachnet.edu!concert!inxs.concert.net!  
 rock.concert.net!mikewood@network.ucsd.edu  
 Subject: Results of modes survey  
 To: info-hams@ucsd.edu

I operate my VHF Packet station on the local DX PacketCluster simultaneously  
 with my HF station. In fact the my packet staion stays connected 24 hours  
 a day so that alone is 100 per cent of my operating time.



It would be more accurate to ask what percentage of your total contacts or QSOs occur in each mode.

Thanks for doing the survey though.

Mike Wood                    Internet: mikewood@rock.concert.net  
The Signal Group  
P.O. Box 1979                \*\*\*Avoid company disclaimers by owning the company \*\*\*  
Wake Forest, NC 27588

Phone: 919-556-8477                Fax: 919-556-0115                NT40

Interrupt

-----  
Date: 22 Jul 93 13:45:25 GMT  
From: psinntp!arrl.org@uunet.uu.net  
Subject: STILL waiting for your license? Read this and weep!  
To: info-hams@ucsd.edu

In rec.radio.amateur.misc, levin@bbn.com (Joel B Levin) writes:  
>In article <CAIpCC.MsL@dartvax.dartmouth.edu>, Kenneth.E.Harker@Dartmouth.Edu  
(Kenneth E. Harker) writes:  
>|> And I was actually considering joining the ARRL myself, but now I don't  
>|> think so. I would offer to pay more than \$5.60 for the handling, but I  
>|> don't think that would help, really. I mean, my \$5.60 is enough money  
>|> to pay a college intern to devote \_an entire hour\_ to my application  
>|> alone. If it can't get double checked and forwarded on to the FCC  
>|> within an hour, there's something really wrong with the ARRL.  
>  
>I suppose you think the VEC is there to process just your application.  
>Do you know how many they receive? I think they are probably quick  
>enough in average times; but they are subject to peaks just like  
>anyone else, and it's possible that when the mail brings in several  
>large VE sessions' worth of applications at once it takes more than a  
>little while to get through them.  
>  
>I don't know if an hour per application is reasonable, either; there  
>is a lot of careful checking and logging that goes on, and they go  
>through every piece of paper that comes with each 610 and VE session;  
>session logs and summary sheets, and for each 610 there are  
>photocopies of existing licenses and CSCEs, the graded test sheets,  
>and new CSCEs issued.  
>  
>On the other hand I read the rules to mean that 610s should leave the  
>VEC for the FCC within ten days of arrival at the VEC, regardless of  
>how quick the VE team was.

Thanks, Joel. You've hit the nail on the head.

We do have peak times here at the ARRL/VEC. One is routinely April/May/June--with November and December also a peak, but to a lesser degree.

Given that a VE Team may up to ten days at their end, add on three days (on average) for mailing to the VEC, and assuming that we took our full ten days, two to three weeks time can be involved before the application reaches the FCC. During testing peaks, we have had to use our full ten days.

And yes, each answer sheet, code copy sheet, 610, CSCE (previous and current), and any other document(s) for each applicant are reviewed. Nearly each license copy has to be trimmed and attached to the 610, as the FCC requires. Attendance averages twelve applicants per session, with a routine number of sessions including 25 to 40 applicants or more.

A file is then created for test forms. Session summary results are entered into a computer. The VE Team's credentials are verified. An FCC summary form is created/copied for forwarding/filing. And so on...

Year around, we probably average four to six days processing time. Sometimes more, per above, and sometimes less. As for us turning an exam the same day received, we'd like to do that--but we aren't able to do so at present. Of course, whenever the FCC goes beyond six weeks themselves, one-third of our staff find themselves answering inquiries from applicants regarding the whereabouts of their license. This is often six to seven weeks into the process. We would be glad to have those staff members processing sessions too...

Informationally, we have given each ARRL VE Team (and VE) an information sheet--that they are to hand out to applicants--which covers the typical wait for a license (specified at about ten weeks from the test date). We verbally indicate eight to ten weeks to callers.

The FCC quotes 90 days. If an inquiry is made by an applicant to the FCC before 90 days have elapsed, the FCC will sometimes advise that the caller check back at 90 days--or, if the license has not been issued, they will review their computer records and, if nothing is found, they will give their \*standard\* response, "We have no record of that application!"

Great response, eh? Well, the FCC only records on their computer the fact that an application is at their facility when it is actually keyboarded.

When is it keyboarded? The 2nd to the last step in their process--which is on a Tuesday (about five to seven weeks after they have received).

What is the last step? Two days later (the same week, on that Thursday), the license is laser printed and mailed. You then receive it via first-class mail within the next few days.

73,

Bart J. Jahnke, KB9NM  
Manager  
ARRL/VEC

-----  
Date: Thu, 22 Jul 93 08:10:25 GMT  
From: mercury.hsi.com!a3bee2!cyphyn!randy@uunet.uu.net  
Subject: Type Acceptance impacts all NEW equipment, was Re: TS50 Illegal!  
To: info-hams@ucsd.edu

dana@lando.la.locus.com (Dana H. Myers) writes:

: In article <1993Jul20.161019.6673@porthos.cc.bellcore.com>

whs70@dancer.cc.bellcore.com (sohl,william h) writes:

:

: Complying with regulations and being type accepted are two different  
: things, and it is important not to confuse them. Type acceptance is  
: a certification granted by the FCC when a manufacturer provides data  
: to the FCC indicating that a design complies with the relevant  
: standards. In ham radio, only external power amplifiers capable of  
: operation below 144 Mhz require type acceptance.

:

: Nomenclature on a device indicating that it complies with relevant  
: standards is not the same as type acceptance. Most new electronic  
: equipment today is marked that it complies with Part 15, which is  
: to say that it does not produce illegal undesired RFI. Telephone  
: devices are certified to comply with Part 68. All devices must  
: comply with relevant technical standards, and may be marked to  
: indicate which standards these are, but this is not type acceptance.  
: Certification of standards compliance may not involve the FCC at  
: all.

:

: Type acceptance really means "this device has been approved by the FCC  
: for use in a particular service".

:

: --

: \* Dana H. Myers KK6JQ | Views expressed here are

\*

That all makes sense, 100%.

But the Hams rigs would have SOME kind of sticker, that was about its spectral output....not about it's freq range.

hams are expected to know their limits as to frequency, how to control their rigs. ( c/b er and taxi drivers are not , so the rigs they use must be able to work, foolproofly, and so have a tag to indicate the FCC accepts it )

So, a rig that is intended to be used by a Ham, would not need any such [ frequency related] type acceptance.....

Or has that changed now too?

I'm more curious about this than worried about it...as I'd never buy one of these new sets....you ever look inside one ?

They have PC boards with coffee ground sized capacitors, resistors and specks that are transistors.

When it breaks....you have no choice but to send it back to its maker. No WONDER we are 'appliance users' 1 :)

73's

--

Randy,KA1UNW

If you get a shock while servicing your equipment  
DON'T JUMP! You might break an expensive tube.

-----  
Date: 22 Jul 93 14:10:37 GMT

From: news.crd.ge.com!dssv01!kennykb@uunet.uu.net

To: info-hams@ucsd.edu

References <21dmb8\$17q@usenet.INS.CWRU.Edu>, <Ne0X7B1w165w@nj8j.atl.ga.us>, <21JUL199321295589@erich.triumf.ca>

Reply-To : kennykb@crd.ge.com

Subject : Re: How does an American sign in Canada?

In article <21JUL199321295589@erich.triumf.ca>, bennett@erich.triumf.ca (P.Bennett) writes:

|> I recall several years ago that there was some attempt to change  
|> this slightly, to allow European amateurs to use all of our 2 metre  
|> band, although they would only be permitted to use half of it at  
|> home. I don't know if this was legally changed, but I have heard  
|> some europeans on the 146-148 area.

Some European countries do it right in their own regulations, and restrict 2m to the 2 MHz in ITU Region 1, while giving it the full 4 MHz in Regions 2 and 3. A ham from a country with regulations phrased that way would have no problem.

Also, the Ministry of Communications really has no interest in enforcing the regulations of the ham's home country, so as long as the foreign ham is operating VHF or higher and in compliance with Canadian regulations, the question is nearly moot.

73 de ke9tv/2, Kevin KENNY GE Corporate R&D, Niskayuna, New York, USA  
GCS/E d++ -p+ c++ l m\* s+/+ g+ w+ t r x+

-----  
Date: 22 Jul 93 13:36:52 GMT  
From: ogicse!uwm.edu!math.ohio-state.edu!sdd.hp.com!col.hp.com!fc.hp.com!  
jayk@network.ucsd.edu  
To: info-hams@ucsd.edu

References <1993Jul21.090935.29250@ke4zv.uucp>, <CAIqDx.F1o@fc.hp.com>,  
<1993Jul22.071706.4507@ke4zv.uucp>  
Reply-To : jayk@fc.hp.com  
Subject : Re: SMD rework was(Re: Alinco DJ-580 Intermod Reduction)

Gary Coffman (gary@ke4zv.uucp) wrote:  
: In article <CAIqDx.F1o@fc.hp.com> jayk@fc.hp.com writes:  
: >It seems that the hot air method, if uncontrolled, can result in partial  
: >reflows of adjacent solder joints. This can sometimes cause long term  
: >reliability problems.

: Yes, but it's relatively easy to control the hot air flow. There are  
: two methods generally in use. The first is sheet metal shrouds of  
: various shapes to direct the air. The other, and the one I prefer,  
: is to use modelling clay to build a heat dam around the part to be  
: reworked. The clay is easy to apply, peels right off when done, and  
: is reusable.  
: Gary

The clay is an interesting idea. Hadn't heard about that one.

Basically I just wanted to point out that liquefying the solder on adjacent parts wasn't a good idea. Especially if there are SMT parts on both sides of the board :-).

73, Jay K0GU

-----  
Date: 22 Jul 93 12:59:57 GMT  
From: ogicse!emory!europa.eng.gtefsd.com!howland.reston.ans.net!  
usenet.ins.cwru.edu!neoucom.edu!wtm@network.ucsd.edu  
To: info-hams@ucsd.edu

References <fred-mckenzie-190793181548@k4dii.ksc.nasa.gov>,  
<10772@tekig7.PEN.TEK.COM>, <1993Jul21.202408.27752@TorreyPinesCA.ncr.com>0  
Subject : Re: TS50

My Kenwood TS-440 service manual specifies that the S-meter should be calibrated for 50 uV input at 14.200 00 MHz = an indication of S9. That seems to be somewhat of a defacto standard. Most meters seem to indicate about 6 dB per S unit. I do notice, however, that the sensitivity of the meter varies per band on my receiver, so it is still a relative indication. Too much emphasis is placed on S meter reports.

My TR-751A indicates S9 when fed 1.0 uV at 148.000 MHz, a suspiciously round number. I don't have the service manual, but determined that empirically by attaching our service monitor. The meter is approximately 6 dB per unit, but only approximately.

--  
Bill Mayhew           NEOUCOM Computer Services Department  
Rootstown, OH 44272-9995   USA           phone: 216-325-2511  
wtm@uhura.neoucom.edu       amateur radio 146.58: N8WED

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End of Info-Hams Digest V93 #889

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